It is claimed:

1. A diesel particulate filter comprising a plugged, wall-flow honeycomb filter body composed of cordierite and having a plurality of parallel end-plugged cell channels traversing the body from a frontal inlet end to an outlet end thereof, wherein:

   the filter exhibits a CTE (25-800°C) of less than $13x10^{-7}/°C$, a bulk filter density of less than 0.60 g/cm^3, a median pore diameter, d_{50}, of less than 25 micrometers, a porosity and pore size distribution that satisfy the relationship $P_m \leq 3.75$, wherein P_m is equal to $10.2474\{1/[(d_{50})^2(\%porosity/100)]\} + 0.0366183(d_{90}) - 0.00040119(d_{90})^2 + 0.468815(100/\%porosity)^2 + 0.0297715(d_{50}) + 1.61639(d_{50}-d_{10})/d_{50}$, wherein d_{10}, and d_{90} are pore diameters at 10% and 90% of the pore size distribution on a volumetric basis, and $d_{10} < d_{50} < d_{90}$.

2. A diesel particulate filter in accordance with claim 1 wherein the CTE is less than $10x10^{-7}/°C$.

3. A diesel particulate filter in accordance with claim 2 wherein the CTE is less than $7x10^{-7}/°C$.

4. A diesel particulate filter in accordance with claim 1 wherein the CTE is greater than $4x10^{-7}/°C$ and less than $13x10^{-7}/°C$.

5. A diesel particulate filter in accordance with claim 4 wherein the CTE is greater than $4x10^{-7}/°C$ and less than $10x10^{-7}/°C$.

6. A diesel particulate filter in accordance with claim 5 wherein the CTE is greater than $4x10^{-7}/°C$ and less than $7x10^{-7}/°C$.

7. A diesel particulate filter in accordance with claim 1 wherein $P_m \leq 3.50$.

8. A diesel particulate filter in accordance with claim 7 wherein $P_m \leq 3.30$.

9. A diesel particulate filter in accordance with claim 1 wherein %porosity is not less than 53%.

10. A diesel particulate filter in accordance with claim 9 wherein %porosity is not less than 56%.

11. A diesel particulate filter in accordance with claim 10 wherein %porosity is not less than 59%.

12. A diesel particulate filter in accordance with claim 1 wherein $(d_{50} - d_{10})/d_{50}$ is not greater than 0.50.

13. A diesel particulate filter in accordance with claim 12 wherein $(d_{50} - d_{10})/d_{50}$ is not greater than 0.45.

14. A diesel particulate filter in accordance with claim 1 wherein the median pore diameter, d_{50} is less than 20 micrometers.

15. A diesel particulate filter in accordance with claim 14 wherein the median pore diameter, d_{50} is less than 15 micrometers.

16. A diesel particulate filter in accordance with claim 15 wherein the median pore diameter, d_{50} is less than 12 micrometers.

17. A diesel particulate filter in accordance with claim 1 wherein d_{90} is less than 40 micrometers.

18. A diesel particulate filter in accordance with claim 17 wherein d_{90} is less than 30 micrometers.

19. A diesel particulate filter in accordance with claim 18 wherein d_{90} is less than 20 micrometers.

20. A diesel particulate filter in accordance with claim 1 further exhibiting a modulus of rupture, as measured by a four-point method on a cellular bar cut parallel to the cell channels, of at least 200 psi.

21. A diesel particulate filter in accordance with claim 20 further exhibiting a modulus of rupture, as measured by a four-point method on a cellular bar cut parallel to the cell channels, of at least 250 psi.

22. A diesel particulate filter in accordance with claim 21 further exhibiting a modulus of rupture, as measured by a four-point method on a cellular bar cut parallel to the cell channels, of at least 300 psi.

23. A ceramic filter for trapping and combusting diesel exhaust particulates comprising an end-plugged porous cordierite honeycomb structure, wherein the filter meets a set of conditions selected from the group consisting of:
    (a) a CTE (25-800°C) of less than $13\text{x}10^{-7}$/°C, a bulk filter density of less than 0.60 g/cm^3, and a pressure drop across the filter of not more than 2.2 kPa, as measured at 25°C and a flow rate of 11.25 scfm, on a 2 inch diameter, 6 inch long filter having 200 cpsi and a 0.012 inch wall thickness, wherein the filter contains 5 grams/liter of dry artificial carbon soot loaded onto the filter at a flow rate of about 15 scfm;
    (b) a CTE (25-800°C) of less than $13\text{x}10^{-7}$/°C, a bulk filter density of less than 0.60 g/cm^3, and a pressure drop across the filter of not more than 5.8 kPa, as measured at 25°C and a flow rate of 26.25 scfm, on a 2 inch diameter, 6 inch long filter having 200 cpsi and a 0.012 inch wall thickness, when the filter contains 5 grams/liter of dry artificial carbon soot loaded onto the filter at a flow rate of about 15 scfm; and,
    (c) a CTE (25-800°C) of less than $13\text{x}10^{-7}$/°C, a bulk filter density of less than 0.60 g/cm^3, and a pressure drop across the filter minus a pressure drop across a clean filter absent soot at 1.0 gram/liter of soot loading of not greater than 0.75 kPa when the pressure drop is measured at about 25°C at a flow rate of 11.25 scfm across a 2-inch diameter by 6-inch long portion of a filter having about 200 cells/inch^2 and a wall thickness of about 0.012 inches, and the soot is an a dry artificial soot that was previously loaded onto the filter at a flow rate of 15 scfm.

24. The ceramic filter of claim 23 wherein the filter has a CTE (25-800°C) of less than $13\text{x}10^{-7}$/°C, a bulk filter density of less than 0.60 g/cm^3, and a pressure drop across the filter of not more than 2.2 kPa, as measured at 25°C and a flow rate of 11.25 scfm, on a 2 inch diameter, 6 inch long filter having 200 cpsi and a 0.012 inch wall thickness, wherein the filter contains 5 grams/liter of dry artificial carbon soot loaded onto the filter at a flow rate of about 15 scfm.

25. The ceramic filter of claim 24 wherein the pressure drop across the filter is not greater than 1.8 kPa.

26. The ceramic filter of claim 25 wherein the pressure drop across the filter is not greater than 1.5 kPa.

27. The ceramic filter of claim 26 wherein the pressure drop across the filter is not greater than 1.3 kPa.

28. The ceramic filter of claim 24 wherein the CTE is less than $10 \times 10^{-7}/°C$.

29. The ceramic filter of claim 28 wherein the CTE is less than $7 \times 10^{-7}/°C$.

30. The ceramic filter of claim 24 wherein the CTE is greater than $4 \times 10^{-7}/°C$ and less than $13 \times 10^{-7}/°C$.

31. The ceramic filter of claim 30 wherein the CTE is greater than $4 \times 10^{-7}/°C$ and less than $10 \times 10^{-7}/°C$.

32. The ceramic filter of claim 31 wherein the CTE is greater than $4 \times 10^{-7}/°C$ and less than $7 \times 10^{-7}/°C$.

33. The ceramic filter of claim 23 wherein the filter has a CTE (25-800°C) of less than $13 \times 10^{-7}/°C$, a bulk filter density of less than 0.60 g/cm^3, and a pressure drop across the filter of not more than 5.8 kPa, as measured at 25°C and a flow rate of 26.25 scfm, on a 2 inch diameter, 6 inch long filter having 200 cpsi and a 0.012 inch wall thickness, when the filter contains 5 grams/liter of dry artificial carbon soot loaded onto the filter at a flow rate of about 15 scfm.

34. The ceramic filter of claim 33 wherein the pressure drop across the filter is not greater than 5.0 kPa.

35. The ceramic filter of claim 34 wherein the pressure drop across the filter is not greater than 4.5 kPa.

36. The ceramic filter of claim 35 wherein the pressure drop across the filter is not greater than 4.0 kPa.

37. The ceramic filter of claim 33 wherein the CTE is less than 10 x 10^{-7}/°C.

38. The ceramic filter of claim 37 wherein the CTE is less than 7 x 10^{-7}/°C.

39. The ceramic filter of claim 33 wherein the CTE is greater than 4x10^{-7}/°C and less than 13 x 10^{-7}/°C.

40. The ceramic filter of claim 39 wherein the CTE is greater than 4x10^{-7}/°C and less than 10 x 10^{-7}/°C.

41. The ceramic filter of claim 40 wherein the CTE is greater than 4x10^{-7}/°C and less than 7 x 10^{-7}/°C.

42. The ceramic filter of claim 23 wherein the filter has a CTE (25-800°C) of less than 13x10^{-7}/°C, a bulk filter density of less than 0.60 g/cm^3, and a pressure drop across the filter minus a pressure drop across a clean filter absent soot at 1.0 gram/liter of soot loading of not greater than 0.75 kPa when the pressure drop is measured at about 25°C at a flow rate of 11.25 scfm across a 2-inch diameter by 6-inch long portion of a filter having about 200 cells/inch^2 and a wall thickness of about 0.012 inches, and the soot is an a dry artificial soot that was previously loaded onto the filter at a flow rate of 15 scfm.

43. The ceramic filter of claim 42 wherein the pressure drop across the filter minus the pressure drop across the clean filter absent of soot is not greater than 0.60 kPa.

44. The ceramic filter of claim 43 wherein the pressure drop across the filter minus the pressure drop across the clean filter absent of soot is not greater than 0.50 kPa.

45. The ceramic filter of claim 44 wherein the pressure drop across the filter minus the pressure drop across the clean filter absent of soot is not greater than 0.40 kPa.

46. The ceramic filter of claim 42 wherein the CTE is less than 10 x 10^{-7}/°C.

47. The ceramic filter of claim 46 wherein the CTE is less than 7 x 10^{-7}/°C.

48. The ceramic filter of claim 42 wherein the CTE is greater than $4x10^{-7}/°C$ and less than 13 x $10^{-7}/°C$.

49. The ceramic filter of claim 48 wherein the CTE is greater than $4x10^{-7}/°C$ and less than 10 x $10^{-7}/°C$.

50. The ceramic filter of claim 49 wherein the CTE is greater than $4x10^{-7}/°C$ and less than 7 x $10^{-7}/°C$.

51. A method of making a cordierite structure for use in a diesel particulate filter, the method comprising:

(a) forming a mixture of cordierite-forming raw materials, a pore former and organic components, the cordierite-forming raw materials including talc, silica, an alumina-forming source, and optionally kaolin, each defining a median particle size, wherein the talc median particle size, the alumina-forming source median particle size, the amount of pore former, and the pore former median particle size satisfy the relationship $R_m \leq -2.64$, where R_m is equal to [– 0.102(talc median particle diameter) +0.001466(talc median particle diameter)^2 – 0.0491((weight percent super-addition of pore forming agent)/(density of pore forming agent)) – 0.00762(median particle diameter of pore forming agent) + 0.0000760(median particle diameter of pore forming agent)^2 -0.0562(median particle diameter of the alumina-forming source)], wherein the median particle diameter is in units of micrometers;

(b) shaping the mixture into a green structure; and,

(c) firing the green structure at a temperature and for a time to produce a fired structure having a CTE (25-800°C) of less than $13x10^{-7}/°C$, a bulk filter density of less than 0.60 g/cm^3, a median pore diameter, d_{50}, of less than 25 micrometers, a porosity and pore size distribution that satisfy the relationship $P_m \leq 3.75$, wherein P_m is equal to $10.2474\{1/[(d_{50})^2(\%porosity/100)]\} + 0.0366183(d_{90}) - 0.00040119(d_{90})^2 + 0.468815(100/\%porosity)^2 + 0.0297715(d_{50}) + 1.61639(d_{50}-d_{10})/d_{50}$, wherein d_{10}, and d_{90} are pore diameters in units of micrometers at 10% and 90% of the pore size distribution on a volumetric basis, and $d_{10} < d_{50} < d_{90}$.

52. The method of claim 51 wherein the talc is platy and has a median particle size of between 5 and 35 micrometers.

53. The method of claim 51 wherein the median particle size of the silica is between 1 and 35 micrometers.

54. The method of claim 51 wherein the median particle size of the alumina-forming source is between 1 and 18 micrometers.

55. The method of claim 54 wherein the alumina-forming source is selected from the group consisting of corundum, aluminum hydroxide, aluminum oxide hydroxide (such as boehmite), and so-called transition aluminas such as gamma-alumina and rho-alumina.

56. The method of claim 51 wherein the pore former has a median particle size of between 5 and 90 micrometers.

57. The method of claim 56 wherein the pore former has a median particle size of between 7 and 60 micrometers.

58. The method of claim 57 wherein the pore former has a median particle size of between 20 and 50 micrometers.

59. The method of claim 51 wherein the pore former is selected from the group consisting of carbon, coke, graphite, starch, flour, cellulose, polyacrylate, polyethylene, or polystyrene.

60. The method of claim 51 wherein the organic components comprise 2% to 10% by weight of methyl cellulose, and 0.5% to 2% by weight sodium stearate.

61. The method of claim 60 wherein the organic components comprise 3% to 6% by weight methyl cellulose and 0.6% to 1% by weight sodium stearate.

62. The method of claim 51 wherein the shaping is by extrusion.

63. The method of claim 62 wherein the mixture is shaped through a die into a honeycomb body having an inlet and outlet end or face, and a multiplicity of cells extending from the inlet end to the outlet end, the cells having porous walls.

64. The method of claim 51 wherein the CTE of the honeycomb structure is less than $10x10^{-7}/°C$.

65. The method of claim 64 wherein the CTE of the honeycomb structure is less than $7x10^{-7}/°C$.

66. The method of claim 51 wherein the CTE of the honeycomb structure is greater than $4x10^{-7}/°C$ and less than $13x10^{-7}/°C$.

67. The method of claim 66 wherein the CTE of the honeycomb structure is greater than $4x10^{-7}/°C$ and less than $10x10^{-7}/°C$.

68. The method of claim 67 wherein the CTE of the honeycomb structure is greater than $4x10^{-7}/°C$ and less than $7x10^{-7}/°C$.

69. The method of claim 51 wherein the honeycomb structure has $P_m \leq 3.50$.

70. The method of claim 69 wherein the honeycomb structure has $P_m \leq 3.30$.

71. The method of claim 51 wherein the firing is at 1390°C to 1440°C for 4 to 25 hours.

72. The method of claim 51 further comprising the step of forming a wall-flow filter.

73. The method of claim 72 wherein in the formation of a wall-flow filter the cells of the honeycomb structure are end plugged at the inlet or outlet end to form a checkered pattern.